

Papéis Avulsos de Zoologia

Museu de Zoologia da Universidade de São Paulo

Volume 48(9):61-67, 2008

www.scielo.br/paz

ISSN impresso: 0031-1047

ISSN on-line: 1807-0205

OXYLOPSEBUS BRACHYPTERUS: A NEW GENUS AND SPECIES OF OXYCOLEINI (COLEOPTERA, CERAMBYCIDAE, CERAMBYCINAE) FROM BOLIVIA

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ABSTRACT

Oxylopsebus brachypterus new genus and species from humid tropical forest, Department of Santa Cruz, Bolivia is described and illustrated. Although with reduced elytra, the genus is placed in Oxycoleini based on the following characters: female urosternites modified, the first as long as the second to fourth together, the second with a brush for covering the eggs with detritus after being laid; the male with six visible urosternites, the first twice as long as the second; eyes with superior lobes; prothorax divergent behind, disc of pronotum with calli; procoxal cavities closed behind. *Oxylopsebus* gen. nov. would seem to fall between the Oxycoleini and Psebiini and be less closely related to the Obriini and Luscosmodicini, the four tribes in which the females have modified urosternites (the "Obriini group" sensu Martins, 2003). All the specimens were netted as they visited flowers of the vine *Serjania lethalis* (Sapindaceae).

KEYWORDS: New genus, Oxycoleini, host plant, Bolivia.

INTRODUCTION

Martins (2003) revised the tribal status of those Cerambycinae (the "Obriini group") in which the females have modified urosternites; the first being longer than II-III(-IV) together, the centre of II with modified hairs of three types whose function has been described as a scraper and brush for covering the eggs with detritus after being laid (Nicolas *apud* Gounelle, 1913). The "Obriini group", which includes four tribes: Obriini Mulsant, 1839; Luscosmodicini Martins, 2003; Psebiini Lacordaire, 1869, was revised by Martins & Napp (1984) and, again, by Martins (2003) to include the Nathriini Linsley, 1963 as synonymous with Psebiini; and Oxycoleini Martins & Galileo, 2003, which was established as a new tribe separate from the Molorchini Lacordaire, 1869.

Oxylopsebus brachypterus, the new genus and species described here, falls within this "Obriini group" since the female urosternites are modified in the manner described by Martins (2003) as diagnostic for this group of taxa.

All five specimens were netted when flying to, or on, flowers of the vine *Serjania lethalis* (Sapindaceae). The locality is part of disturbed humid tropical forest close to the south-western limit of the amazon rain-forest, 16 km from the foot of the eastern mountain range of the Andes.

The acronyms used in the text are as follows: Museo Noel Kempff Mercado, Universidad Autónoma Gabriel Renè Moreno, Santa Cruz de la Sierra, Bolivia (MNKM); Museu Nacional, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil (MNRJ); Museu de Zoologia, Universidade de São Paulo, São Paulo,

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Brazil (MZSP); Robin Clarke/Sonia Zamalloa private collection, Hotel Flora and Fauna, Buena Vista, Santa Cruz, Bolivia (RCSZ).

RESULTS AND DISCUSSION

Oxylopsebus gen. nov.

(Fig. 1)

Type species: Oxylopsebus brachypterus sp. nov., by present designation.

Etymology: This new genus of Oxycoleini has been named to reflect its affinities to the Psebiini.

Sexually dimorphic abdomen and hind legs. Head prognathous, neck elongate, projecting head well forward of pronotum. Mandibles acuminate. Clypeus large, with sparse, shallow punctures near base, front margin straight, sides diverging to base, not well delimited from frons. Palps short, maxillary palps with basal palpomeres small and transverse, the apical one longer than the rest together, subcylindrical, its apex slightly acuminate. Fronto-clypeal suture absent; front of head wholly occupied by a very deep Y-shaped indentation, anteriorly curved and transverse, medially extending almost to superior lobes.

Eyes large and prominent, occupying two thirds of genae, strongly emarginate, superior lobes well developed, separated by twice their own width; eyes very finely faceted, 16-18 ommatidia per row at middle of superior lobes.

Antennal tubercles undeveloped, marked by a slightly convex, shining, impunctate area. Antennae with eleven segments, almost filiform, longer than body in male, reaching apical quarter of abdomen in female; segments not carinate, very finely pubescent; distinct, sparse setae on sides of scape, underside of pedicel third antennomere, and mesally on IV-VI; scape strongly curved, base narrow, apex broad, not reaching front margin of pronotum. Pedicel small and rounded, almost rudimentary. Antennomere III slightly shorter than scape, and slightly shorter than rest of flagellomeres, IV-VII the longest – half as long again as III in both sexes. In female VIII and IX shorter than IV-VII but distinctly longer than III, X and XI slightly longer than III. In male, VIII-XI subequal, shorter than IV-VII, distinctly longer than III.

Prothorax (Fig. 2) subquadrate, narrowing towards apex. Pronotum smooth and shining, with smoothly rounded calli, as follows: i) two elliptical calli at centreline, one smaller and close to front mar-

gin, the other larger and behind middle, ii) paired sinuate calli to either side of centre, running from basal third (where they form the anterior lateral tubercles) to almost hind angles iii) sides of pronotum with large rounded calli at middle and iv) each basal angle overlayed by a narrow, prominent callus. Prosternum without sexual puncturation; prosternal process laminiform (Fig. 3), apical half strongly expanded, posterior border variable, from truncate to doubly emarginate (giving it a trilobed appearance), passing well beyond coxal cavities; procoxal cavities closed behind, and angled at sides. Pro- and mesocoxae prominent. Mesosternal process (Fig. 4) without tubercle, almost parallel sided, apex slightly excavate, apical angles acute, half the width of coxae; mesocoxal cavities open. Metasternum broad and convex.

Elytra strongly dehiscent, semi-translucent, shortened, reaching, or slightly surpassing, apex of first urosternite, subparallel at sides, apices acuminate. Humeri prominent, slightly rounded and projecting forwards. Elytra strengthened by a carina running from humerus to apex; epipleur reduced behind humerus, leaving metasternum visible from above.

Abdomen of female (Fig. 5) wide at middle, with five visible urosternites. Urosternite I trapezoidal, convex, equal in length to II-IV combined, widest at apex and equal in width to II, wider than III and IV, IV narrower by one third, V half as wide (III and IV may deform in dried specimens). Urosternite II transverse, width half as long again as length, apical margin deeply and regularly emarginate from sides to centre, where it is less than half as long as wide; sides weakly sclerotised, apical half with a transverse depression furnished with four types of hairs from front to hind edge, slender fine hairs of normal type on basal half and at sides, followed by three sorts of specialised hairs: i) a thick layer of long, stout, hairs with gobular tips bordering front edge of depression, ii) a narrow fringe of longer, recumbent hairs with conchoidal tips bordering hind edge of depression, iii) very long, thickened, curved hairs sprouting from centre and sides of depression. Urosternite III weakly sclerotised and somewhat irregular in form, divided into two transverse parts by a distinct carina bearing long fine hairs reaching apex of posterior half; hind edge excised and parallel to hind edge of II. Urosternite IV transverse with long hairs on all sides, thicker laterally, surface from almost sides to centre concave. Urosternite V transverse, depressed at centre, slightly excavate at apex, posterior margin with stout setae.

Abdomen of male (Fig. 6) with six visible urosternites, subparallel, widest at middle. Urosternite I equal in length to II+III combined, I-III trun-

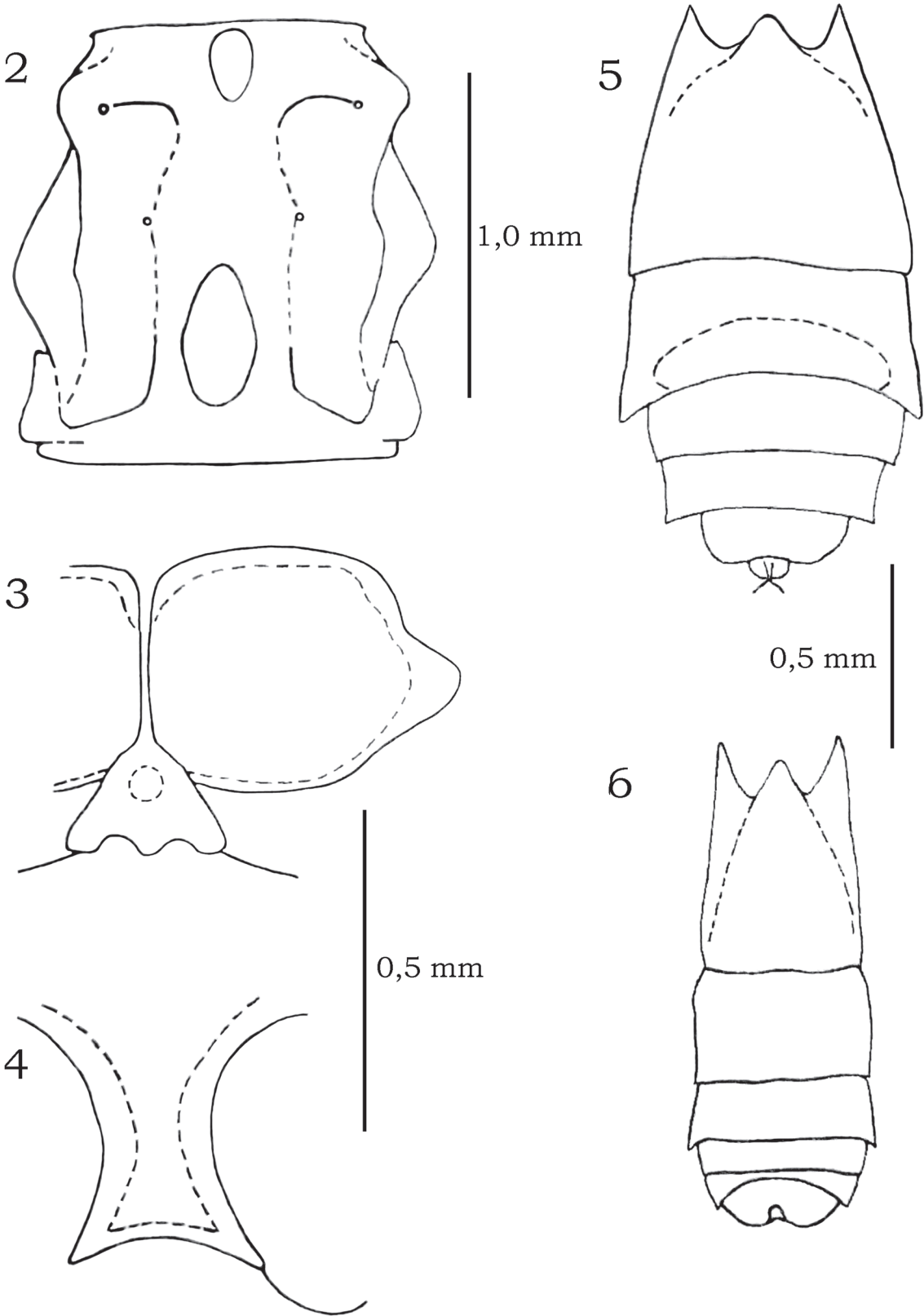
cate at apex. Hind border of urosternite IV slightly emarginate. Urosternite V distinctly narrower than I-IV, posterior border deeply and regularly emarginate. Urosternite VI narrower than V, rounded at sides, hind margin with deep U-shaped incision at middle. Parameres semi-fused, separated for apical third.

Legs moderately long, femoral peduncles long, claws large; front and middle legs subequal; hind legs

the longest, greatly enlarged and strengthened, especially in female, not quite reaching apex of abdomen. Tibiae curved, lacking carina nor sulcate; protibia only slightly curved, slightly widening before apex, apex with small, inconspicuous mesal spine; mesotibia strongly curved, gradually widened to apex, apex with two small spines, the lateral one indistinct; metatibia distinctly curved, apex with two spines, the lateral one



FIGURE 1: *Oxylopebus brachypterus* sp. nov., paratypes: ♂, 8.1 mm (left), ♀ 7.7 mm (right).



FIGURES 2-6: *Oxylopsebus brachypterus* sp. nov.: 2, prothorax, dorsal view; 3, prosternal process (doubly emarginate form); 4, mesosternal process; 5, abdomen, ♀ (position of brush shown on segment 2); 6, abdomen, ♂.

indistinct, the mesal one large. Tarsi subequal, tarsal pads developed, claws notably long, two thirds length of onychium, which is two thirds that of tarsomere I; first metatarsomere of equal length to II+III, III narrow and deeply bilobed.

Discussion: For the purposes of this study I was able to examine specimens in the MZSP collection of the following genera: *Obrium* Dejean, 1821, *Luscosmodicum* Martins, 1970, *Nathrius* Bréthes, 1916, *Paraleptidia* Gounelle, 1913, *Frondipedia* Martins & Napp, 1984, and three species of *Oxycoleus* Lacordaire, 1869: *O. gahani* (Gounelle, 1911), *O. laetus* Julio, 1997, and *O. tristis* (Melzer, 1933).

Oxylopsebus shares some characters with Obriini: eyes large, superior lobes well separated; antennomere V longer than III and IV; procoxal cavities closed behind, and legs pedunculate-clavate. However the differences between *Oxylopsebus* and Obriini are marked. In Obriini the head is short necked, ommatidia coarse, elytra cover abdomen, pronotum narrow at base and lacks calli on disc, femora relatively short, tibia straight, and first metatarsomere longer than II+III, three not deeply bilobed.

Luscosmodicum is monotypic, its species, *Luscosmodicum beaveri* Martins, 1970 (thought to live under bark and adapted to its habits) shows marked differences from *Oxylopsebus*: the body strongly flattened; head projects, but neck not markedly elongate; eyes large but lack superior lobes; antennomere III reduced in size, distinctly shorter than IV and scape; prosternal process reaches well beyond procoxal cavities but relatively wide (not laminiform at base); mesosternal process robust, as wide as coxae and truncate at apex; elytra cover abdomen; front and middle legs short; all femora more or less fusiform with very short peduncles and weak claws; only metatibia curved.

At first glance *Oxylopsebus* might seem to belong to the Psebiini (reduced elytra, relatively simple antennae, and pedunculate-clavate femora) but on close inspection the differences are marked. Psebiini are short-necked, eyes lack superior lobes, elytra short but truncate, or very short with broad rounded apices (not strongly dehiscent and acuminate as in *Oxylopsebus*); prothorax different in form and disc of pronotum lacks calli; prosternal process laminiform but apex not spatulate, nor does it reach beyond coxal cavities; procoxal cavities open behind; mesosternal process acuminate (not subparallel with broad excavate apex as in *Oxylopsebus*); and male abdomen shows only five urosternites.

Although the shortened strongly acuminate elytra of *Oxylopsebus* would seem to discount its in-

clusion in the Oxycoleini, on close inspection *Oxylopsebus* shares many primary characters with the Oxycoleini: the head long necked, the structure of the eyes very similar, with well developed superior lobes and fine ommatidia; prothorax narrowing from base to apex and with lateral calli; pronotum with calli on disc; procoxal cavities closed behind and angled at sides, and procoxae very prominent; mesocoxal cavities open; legs long and slender, femora clavate with elongate peduncles; and male abdomen with six visible urosternites. Most of these characters were cited by Martins (2003) as reason for separating the genus *Oxycoleus* Lacordaire, 1869 from the Molorchini and placing it in its own tribe. And, apart from the elytra, the differences between *Oxylopsebus* and *Oxycoleus* are less obvious: in *Oxylopsebus* the scape is strongly curved (a character shared with *Oxycoleus tristis*); prosternal process laminiform at base, spatulate at apex and reaching well beyond coxal cavities (not flattened and acuminate, and failing to reach beyond coxal cavities); mesosternal process half as wide as coxae and excavate at apex (not almost as wide as coxae and truncate at apex); legs are very similar in both genera, longer in *Oxycoleus*, but in *Oxylopsebus* the hind legs are considerably larger than the others and all the tibiae curved, not just the metatibiae as in *Oxycoleus*. Finally, the elytra of the Oxycoleini not only almost cover the abdomen, but also opaque, and closely and coarsely punctured throughout (shortened, semi-translucent, and sparsely punctured in *Oxylopsebus*).

In conclusion, the monotypic genus, *Oxylopsebus*, should be considered a member of the Oxycoleini because it shares many primary characters with other members of this tribe, few primary characters differing from this tribe and, as has been demonstrated, relatively few affinities with the other tribes of the "Obriini group".

The placement of *Oxylopsebus* in the Oxycoleini compels modification of Martins (2003) key to the tribes of the "Obriini group" as follows:

1. Elytra either short but not acuminate, or very short (subequal in length to pronotum); anterior coxal cavities open behind.....
..... Psebiini Lacordaire, 1869
Elytra either long and more or less completely covering abdomen, or shorter and strongly acuminate; anterior coxal cavities closed behind2
2. Prothorax with sides diverging behind; femora with elongate peduncles and strong claws;

- eyes finely granulate
 *Oxycoleini* Martins & Galileo, 2003
 Prothorax and femora with other form; eyes
 coarsely granulate.....3
 3. Eyes subelliptical, without superior lobes; body
 flattened dorso-ventrally, very thin when
 viewed from the side; femora with short
 peduncles and fusiform claws
 *Luscosmodicini* Martins, 2003
 Eyes emarginate with superior lobes; body
 cylindrical; femora pedunculate and clavate ...
 *Oabriini* Mulsant, 1839

Key to the genera of *Oxycoleini*

1. Elytra opaque and parallel sided, almost covering
 entire abdomen. Metatibia almost straight
 *Oxycoleus* Lacordaire, 1869
 Elytra semi-translucent and acuminate, only
 just reaching second urosternite. Metatibia
 strongly curved *Oxylopsebus* gen. nov.

Oxylopsebus brachypterus sp. nov.

Etymology: The name of the species refers to the short elytra.

Body and legs devoid of reticulation, only antennomeres III-XI microscopically (40x) asperate and reticulate. General colour shining dark chestnut to black. Head, scape, pedicel, prothorax and mesosternum black. Antennomeres III-XI brown. Metasternum and first urosternite variable, from fulvous to chestnut, or reddish; remaining urosternites from chestnut to dark chestnut. Legs chestnut to black, hind coxae and femora may be paler, protarsi fulvous. Elytra semi-translucent pale ochre, slightly darker at base, humeri and sides chestnut.

Dorsad: general pubescence and puncturation inconspicuous, pubescence fine and recumbent, and apparently without associated punctures (40x), except very short (0.05 mm) dense pubescence found in patches on head, pronotum, and uniformly, but sparsely, on elytra. Y-shaped indentation of frons, and vertex to well beyond eyes, and neck and sides of neck, finely punctured and pubescent, each puncture with a short erect hair. Basal and apical margins of pronotum, as well as inner sides of the sinuous tubercles, very finely punctured and pubescent (40x). Each elytron with an ill-defined carina which is broad and almost impunc-

tate from humerus to middle, from where it becomes narrow and salient until reaching tip of elytron; elytron to inside of this carina depressed, with large irregularly distributed punctures, separated by two or three times their own diameter; sides of elytra narrow and more closely punctured.

Ventrad: glabrous with sparse long hairs laterally, except for the following: metepimeron and metepisternum with patches of short white pubescence; centre and base of prosternum, including its process, with short dark pubescence; sides of mesosternum, metasternum, and most of metepisternum clothed with long erect hairs. Abdomen of both sexes almost glabrous (but with sparse, long hairs at sides) and impunctate.

Femora with scattered, shallow, setose punctures, only distinct on metafemur. Apex of protibia densely pubescent mesally, apical half of mesotibia closely punctured and pubescent, metatibia with large scattered punctures bearing elongate setae.

Measurements in mm, ♂/♀ respectively: Total length 6,4-8,1/7,7-7,9; length of pronotum 1,1-1,3/1,2; maximum width of pronotum 1,0-1,3/1,2; length of elytra 2,8-3,3/3,1-3,2; width at humeri 1,3-1,6/1,5.

Type material: Holotype ♀, BOLIVIA, Santa Cruz: 420 m, Hotel Flora & Fauna, 5 km SSE Buena Vista, 17°29'96"S/63°39'13"W, 3.IX.2005, R. Clarke/S. Zamalloa col., flying to/on flowers of "Barbasquillo" vine (MNKM). Paratypes with same data as holotype, ♂, 23.VIII.2005 (MNRJ); ♂, 30.VIII.2005 and ♀, 8.IX.2005 (MZSP); ♂, 26.VIII.2005 (RCSZ).

The vine (known locally as "Barbasquillo") referred to on the data labels is a locally common species occurring at forest edge and clearings but is more exuberant covering the vegetation at the edge of abandoned cultivations.

RESUMO

Oxylopsebus brachypterus, um novo gênero e espécie de *Oxycoleini* (Coleoptera, Cerambycidae, Cerambycinae) da Bolívia. *Oxylopsebus brachypterus*, gênero e espécie nova do bosque tropical úmido do Departamento de Santa Cruz, Bolívia, são descritos e ilustrados. Embora com élitros reduzidos, o gênero é incluído em *Oxycoleini* com base nos seguintes caracteres: urosternitos modificados nas fêmeas, primeiro tão longo quanto o segundo ao quarto somados, o segundo com uma escova de pêlos para cobrir com detritos os ovos recém-postos; abdome dos

machos com seis urosternitos visíveis, o primeiro com o dobro do comprimento do segundo; lobos superiores dos olhos presentes; protórax divergente posteriormente, disco do pronotum com calos; cavidades procoxais fechadas posteriormente. Oxylopssebus gen. nov. parece se incluir entre Oxycoleini e Psebiini e ser menos próximo a Oabriini e Luscosmodicini. Nestas quatro tribos, as fêmeas têm urosternitos modificados ("grupo Oabriini" sensu Martins, 2003). Todos os espécimes foram emalhados enquanto visitavam as flores de Serjania lethalis (Sapindaceae).

PALAVRAS-CHAVE: novo gênero, Oxycoleini, planta hospedeira, Bolívia.

ACKNOWLEDGEMENTS

To Antonio Santos-Silva (MZSP) for the excellent photograph of the species. To Dr. Ubirajara Martins for his companionship and patience offered me during my two week visit to the MZSP; the result is a more incisive manuscript whose remaining discrepancies are mine alone. To two plant experts: Dr. Michael

Nee, Curator of the New York Botanical Gardens, without whom the latin names of the many cerambycid plant hosts from which I have collected would remain unknown; and, likewise, my neighbour, Señor Ruperto Vargas, for the local names of these plants. To Julietta Ledezma for the gentle administration of her duties as Jefe Dpto. de Entomologia, MNKM. To my wife, Sonia Zamalloa, and my major domo, Señor Elias Alvarado, both knowledgeable collectors, for the many hours of help they have given me in the field.

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Recebido em: 07.12.2007

Aceito em: 26.02.2008

Publicado em: 24.03.2008

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